This thesis combines a traditional concept of linear programming and interval analysis. Interval analysis ensures that a result belongs to a counted interval and allows us to put an interval instead of a single value on the input. It can be useful especially in practical problems where we get data from measurements and we do not know exact values. The first explored topic is the optimal value range with respect to values and its bounds. Also, the classical concept of duality gap is expanded to interval linear programmimg, necessary and sufficient conditions for zero duality gap and connections between zero duality gap and a continuous set of optimal values are determined. Possible values of duality gap in an interval linear program are shown in examples. The last topic are weak and strong duality in interval linear programming, strong duality types for bounds of the optimal value range and their extensions.